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Learning Resources in the Context of Play. Promoting Effective Learning in Early Childhood

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SUMMARY: This article argues that there is no absolute standard for defining the quality of early childhood education and care. Current approaches to effective teaching/learning are of a very limited value for the definition of a standard for good education. In an attempt at finding an alternative definition of effective teaching in early childhood education, the article explores from a Vygotskian perspective the notion of play as a format for young children's activities. From this perspective, every activity - including play activity - is seen as a distributed form of cognition, that comprises different cultural resources that can be employed by the actors for the accomplishments of the activity. Effective learning in early childhood now can be conceived as a characteristic of a shared playful activity for children in which they are stimulated to use as many of the available resources as possible. Initial evaluations of a play-based curriculum based on these ideas, are presented and discussed.

RÉSUMÉ: Cet article montre qu'il n'y a pas de critère absolu pour définir la qualité de l'accueil et de l'éducation des jeunes enfants. Les approches habituelles pour un apprentissage/enseignement effectif ont une valeur très limitée quant à la définition de critères d'une bonne éducation. Essayant de trouver une définition alternative pour un enseignement effectif de la petite enfance, cet article analyse à partir d'une perspective vygotzkienne la notion de jeu comme cadre pour les activités des jeunes enfants. Dans cette perspective, chaque activité - dont celle de jeu - est considérée comme une forme de cognition qui comprend différentes ressources culturelles pouvant être utilisées par les acteurs pour l'accomplissement de l'activité. Un apprentissage effectif chez les jeunes enfants peut alors être conçu comme une caractéristique de l'activité ludique partagée dans laquelle les enfants sont incités à utiliser autant de ressources disponibles que possible. Les premières évaluations d'un programme fondé sur le jeu, basé sur ces idées sont présentées et discutées.

ZUSAMMENFASSUNG: In diesem Beitrag wird ausgeführt, dass es keinen absoluten Standard für die Definition von Qualität von Betreuung, Erziehung und Bildung in der frühen Kindheit gibt. Aktuelle Ansätze für effektives Lehren/Lernen sind von sehr begrenztem Wert für die Definition eines Standards für gute Bildung. In einem Versuch, eine alternative Definition für effektives Lehren in der Bildung der frühen Kindheit zu finden, untersucht der Beitrag von einer Vygotski'schen Perspektive aus den Standpunkt von Spiel als Paradigma für die Aktivitäten kleiner Kinder. Aus dieser Perspektive wird jede Aktivität - einschließlich Spielaktivität - als eine übertragbare Form von Kognition gesehen, die verschiedene kulturelle Ressourcen einschließt, die von den Akteuren für die Zwecke der Aktivität genutzt werden können. Effektives Lernen in der frühen Kindheit kann jetzt als ein Merkmal einer gemeinsamen spielerischen Aktivität für Kinder aufgefasst werden, bei der sie angeregt werden, so viele der verfügbaren Ressourcen wie möglich zu nutzen. Erste Evaluationen eines spielbasierten Curriculums, das auf diesen Ideen beruht, werden vorgestellt und diskutiert.

RESUMEN: Este artículo sostiene que no hay un criterio absoluto para definir la calidad del cuidado y de la educación temprana. Las actuales aproximaciones sobre la eficacia del proceso enseñanza/aprendizaje tienen un valor limitado en el momento de definir los criterios sobre una educación de calidad. En un intento para descubrir una definición alternativa de un aprendizaje eficaz en la educación de la primera infancia, el artículo explora, desde una perspectiva Vygotskiana, la noción de juego como un formato para las actividades de las criaturas en la primera infancia. Desde esta perspectiva, cada actividad, incluida la actividad de juego, es vista como una forma distribuida de cognición, que comprende diferentes recursos culturales que pueden ser empleados por los actores para la realización de la actividad. El aprendizaje eficaz en la primera infancia puede así ser concebido como una característica de una actividad lúdica compartida por el niño y la niña en la que se encuentran estimulados a utilizar el máximo de recursos disponibles posibles. Se presentan y discuten las primeras evaluaciones de un currículum basado en el juego y fundamentado en estas ideas.

Keywords: Quality; Effective learning; Play; Curriculum; Vygotskian perspective.

1. The quest for quality

One of the big issues in modern western life is the quest for quality. It pertains to almost all sectors of public life, and education is no exception. It is quite understandable that many people have permanent concerns about the effect of the public education institutions on their children. There is an economic basis for this concern: parents and governments pay for it so they want the highest quality in return. But there is also a more idealistic ground for it: the value of good education for future life can hardly be overestimated. Parents want the best for their kids, assuming that more and higher education gives better chances for money, jobs, and future careers. The French sociologist Bourdieu once compared modern schooling with a struggle in an arena where people try to gather as much knowledge, abilities, and social relations as possible in order to gain more *symbolic power* for the participation in social life (Bourdieu, 1991). And as in every arena, there is competition here, and winners and losers. In terms of this metaphor we could define high quality in education as the quality of educational systems in the preparation of young people for successful participation in the social arena. Good education helps youngsters to acquire the symbolic power for participating meaningfully in the sociocultural life of their community. However, a view on quality that focuses primarily on the gains in cultural life is potentially conservative and reproductive. Obviously, this is not what Bourdieu meant. As a sociologist, however, he did not deeply analyse on a microlevel the conditions and psychological consequences of educational contexts. Bourdieu was right to emphasise the importance of the cultural dimensions in education, but this must be combined with due attention to personal aspirations and interests as well. The core business of all education is personal empowerment, i.e. the promotion of personal and cultural development, including the responsibility and critical power to improve the conditions for development within the community. In this article I will describe some of the advancements that a group of Dutch people produced in their attempts at developing and implementing a play based curriculum in early childhood settings. I will consider it as my task to describe the theoretical framework and some of its empirical foundations and argue that a well implemented play based curriculum is indeed an example of high quality education.

For a long time, the quest for educational quality was primarily taken up by the teaching institutions (especially the upper grades of primary schools, and secondary schools). It was mainly operationalised in terms of effective schools and effective teaching. But in the last decades the early grades of primary schools and even the preschool institutions are equally subjected to this quest for quality. Verry (2000, p. 95) writes:

“It is important to understand what constitutes effective early education and to ask whether current policies are adequate to ensure effective and equitable provision”.

When trying to portray the quality of educational provisions, it is necessary to specify the kind of effects we are willing to accept as valid indicators of this quality. As we shall see later, the definition of the valuable and desirable effects in the effective teaching movement is in itself already questionable, but it is even more questionable whether we may apply these starting points, definitions and the working strategies of the effective schools movement directly in the ECE provisions for children of 2-to-7-years old. So a closer look at effectiveness is here required.

In this article I will describe how we dealt with this quest for quality in the education of the 3 to 7/8 year olds in the Netherlands. This work was basically a joint venture between innovators, teacher trainers, teachers and academic researchers, working together in order to develop the notion of good quality both at a practical and theoretical level. Our work was underpinned by a shared conception of education called "Developmental Education" which was based on the ideas of Vygotsky and his followers. The work of Frea Janssen-Vos and her co-workers (since the early 80's) was an important starting point for the practical elaboration of a working strategy (called "Basisontwikkeling" later supplemented with "Startblokken" for pre-primary school children). These strategies could be used by educators in pre-primary institutions and in the early grades of primary schools. The research programme of the Department of Education and Curriculum of the Free University in Amsterdam was since the late 70's researching development and learning at school from a Vygotskian point of view. Since the late 80's collaboration was initiated between these two groups, which could cross-fertilise the work of all participants (see Janssen-Vos & van Oers, 1998). In my present article I will mainly focus on the theoretical framework, underpinning our elaboration of quality, and illustrate this with examples taken from the schools working with this developmental education programme developed by Janssen-Vos and her colleagues. The core of my argument consists basically in two steps, by contending that:

- a) quality is an essentially contested concept that can never be absolutely defined. It is a permanently evolving cultural historical concept that integrates both cultural-historical values and local values. Consequently, a dialogical consensus between collaborating parties can never be a solid or final basis for the general definition of quality (see also Dahlberg et al., 1999). The historical dimension requires that we also take into account elements from a cultural heritage in the definition of quality. So quality is basically a provisional outcome of a *polylogical* argument. Hence, in education situations the argument essentially draws from pupils, parents, teachers and a cultural heritage;
- b) play activity can be a quality mark for early education if it stimulates young children's cultural learning processes and integrates the interests of both pupils and educators as cultural representatives.

Let me now start with a closer look at the concepts of effectiveness and quality.

2. The notion of effectiveness in education

Educational effectiveness has its roots in economically-oriented studies relating monetary input and the resulting school outcomes (in terms of achievement test scores), and in sociological studies relating background variables of the pupils (like socio-economic or cultural background, education level of parents) with output variables. However, those models turned out to be rather limited and in the 90's researchers began to integrate process variables (like 'time on task', 'incentives', 'direct instruction', 'high expectations', 'structure' etc.) into their models for the explanation of educational effectiveness (see for example Creemers & Scheerens, 1994; Slavin, 1994; Muijs & Reynolds, 2001).

Overviewing the literature on school effectiveness we can currently identify two main approaches to school effectiveness:

- 1) *a financial-economic approach*: this is an approach mostly opted for by politicians, administrators and policy makers, as it defines effectiveness as the highest achievements in relation

to pre-fixed (often minimised) costs. A key issue of this cost-effectiveness approach is to optimise the cost – outcome balance and to ensure consumers that those providing ECEC services meet certain minimum qualifications and adhere to certain rules that promote quality (see for example Myers, 2000). The cost effectiveness approach often manipulates variables that are assumed to be both quality enhancing and cost containing. The literature gives the following list of criteria for the identification of good quality in early childhood education and care provisions (see for example, Kamerman, 2000):

group size	staff-child ratio
caregivers education level	salaries
health and safety standards	adequate physical space
involvement of parents	equity of access
active learning environments	

Kamermann furthermore underlines that ECEC provisions make different choices in their attempts at balancing costs and quality. There is, she writes, ‘no agreed on definition of or standards concerning the quality of ECEC programmes cross-nationally. Furthermore there is no systematic attention to this subject in the literature’ (Kamerman, 2000, p. 15).

In reviewing this approach, we can say that there is no doubt that expenses are an important element in every production of high quality provisions. However, the criteria for the definition of quality of ECEC provisions are quite formal and one-sided, as they rarely include any criterion that is based on the interest of the children themselves. On the other hand, the definition of expected developmental outcomes for the children is more often than not left open, as it is assumed that installing those quality conditions somehow deliver positive developmental effects, whatever they are. The cost-effectiveness approaches tend to be based on large-scale studies of ECEC provisions and support mainly bureaucratic regulations regarding ECEC provisions. The daily practices don’t draw direct benefits from them with regard to their ways of working with children. At best the outcomes of these studies give indications of the conditions to be created for getting a high quality certificate from the policy makers, given the provisions’ available finances.

2) *Social-Engineering approaches to effectiveness*: this approach starts out from the modernist assumption that positive empirical science can produce true theories that can prescribe the course of development in people, if applied carefully. Science can discover the truth about development and learning, and applying these pieces of insight to practical educational situations will create situations and interactions that will result in predictable outcomes (provided the theories are good and well-tested). This assumption of the malleability of the human being is characteristic of modernist approaches (however different they may be with respect to their theoretical explanations). ‘Effective’ here refers to every approach that applies such valid research-based knowledge (see for example Muijs & Reynolds (2001), who summarise a number of such scientifically grounded theories). Needless to say that “valid” here means: based on scientific research according to the mainstream methodological maxims.

In their overview of the advances in educational effectiveness research, Creemers & Scheerens (1994, p. 126 -127) specify this approach further by identifying the following basic elements for the definition of effectiveness in education:

- *effectiveness refers to goal attainment*, i.e. effectiveness can only be determined when a certain predefined goal is achieved;
- *effectiveness should be seen as a causal concept*, i.e. criteria for effectiveness should be based on a theory of learning that can account for the outcomes in a causal way;
- *educational effects should be attributed to specified antecedent conditions*, i.e. the conditions that are held responsible for the expected effects should be identified and measured in advance;
- *empirically verifiable assumptions about the robustness and scope of effectiveness are made*,

i.e. educators must make assumptions about the stability of the effects, about the generality of the effectiveness-enhancing effects, the validity of achievements tests, the descriptive value of test outcomes for individual development, etc.

In reviewing this approach¹, it is possible to criticise every element in this definition of 'quality'. I will confine myself to only two objections. First of all, the approach wrongfully identifies test outcomes with development. This is one of the most serious weaknesses of the approach. Characteristically, Creemers & Scheerens (1994, p. 129) write:

"In primary and secondary education achievement tests in the basic school subjects are likely to remain the core criteria in educational effectiveness research, since teaching basic subjects can be seen as the core business of schooling".

For ECEC provisions this would mean to that they should focus mainly on the acquisition of the prerequisites of reading, writing and arithmetic for getting a high effectiveness score. It is, for instance, illustrative what Muijs & Reynolds (2001) write in their chapter about effective teaching in the early years:

"A focus on learning basic skills has been shown to be positively related to achievement on standardised tests, and it has been argued that this method is particularly important for children from less advantaged backgrounds in light of the fact that they in particular may be lacking these basic skills" (p. 134).

The conception of effectiveness in the engineering approaches is closely linked to separate achievement test scores with regard to basic skills. This is, however, based on the false assumption that a collection of these scores can be used as proxy's for development. 'Development', however, can never be reduced to scores on isolated uni-dimensional tests, for the same reason as the quality of a book can never be reduced to the attractiveness of the title, the number of pages, the number of chapters, the number of authors, the average length of the sentences, the number of passive constructions, the acidity of the paper used, and so on. 'Development' is an integrative qualification of a person as an evolving human being and an agent in sociocultural activities. It is an open-ended, holistic conception that can never be expressed in elementaristic measurements (see for example Valsiner & van der Veer, 2000).

A further comment regards the goal attainment element of the definition. The focus on attained outcomes puts aside all (unpredicted or even unpredictable) positive and negative emergent acquisitions that result from the actual daily interactions of the children. These positive or negative learning outcomes might be a good reason for reconsidering the assumed quality on the basis of attained outcomes. From a developmental point of view it may be that pupils formally reach the goals, but in a mechanical way, without understanding; or reach the goals with an increased anxiety or negative self-image. In these situations we should consider the education as developmentally not effective, or effective in a negative sense. And the pupil who doesn't (yet) attain the goal, but did improve its self-confidence through the educational activities, has been subject of an effective educational activity. At least these possibilities must be taken into account for getting a good estimation of the developmental effects. The most serious problem with this element of the definition of effectiveness is that the establishment of the goals is exclusively seen as an educator's responsibility, without taking the pupils' current interests into account. Moreover, the emergent goals of the interactive process, which might make an educational process unmistakably productive for the promotion of development, are not accounted for in this definition of effectiveness. Finally, the exclusive focus on goal attainment overlooks the qualities of the educational activities as such for both teachers and pupils. It is plausible to consider the gains for the pupil in the definition of effectiveness, but it is too limited and sometimes utterly wrong if these gains are only defined in terms of the attainment of previously defined cognitive goals.

3. Redefining educational effectiveness

The above-mentioned critical points with respect to the cost-effective and the social-engineering approaches to effectiveness, call for another view on effectiveness. My reconceptualisation of the notion of effectiveness starts out from the idea that effectiveness is a quality of an educational activity that can only be attributed to this activity on the basis of an *argumentative conclusion*, reconciling the interests of all direct participants and legitimate indirect stakeholders in the process. When the teacher plans an educational activity with pupils in order to promote a certain type of learning, then the teacher and these pupils are the direct participants, but the parents and the society at large are also legitimate stakeholders; when a parent and her child are involved in a shared activity, then they are the direct participants, but the teacher who meets that child at school is also a legitimate, indirect stakeholder of this activity, and even society at large bears the consequences of this interaction, so can be considered a legitimate indirect stakeholder. The quest for quality in this case is based on the attempt to reach a situation that maximises the benefits for all on the basis of a negotiation of all meanings involved. In brief: *judging quality is a polylogical process that brings multiple perspectives together, including the evaluation of the outcomes from a cultural point of view*. The important point of this definition of quality is that it is not based on a dialogical consensus between two directly engaged parties, but it takes into account the interests of legitimate indirect stakeholders as well. So quality is basically a polyphonic outcome (to use the words of Bakhtin, see Morris, 1994, p. 16-17; 248). The polyphony refers to the situation that there are many voices taking part in the definition of quality. As a matter of fact, *heteroglossia* might even be a better characterisation of this process, since there are often even antagonistic voices involved, as is the case when the inspectorate demands classroom performances (e.g. scores on a certain test) beyond the consent of the teacher or the children (e.g. when teachers find these tesscores useless). In this case the teachers can sometimes decide to exclude some stakeholders (inspectorate, scientists, parents) from the process. It will be obvious that this is not an easy process, but it may be a necessary move in order to gain consensus on the desired quality of the educational process. In most countries the government by law forces the participants in this quality defining process to take some specified criteria into account. And parents, teachers, and pupils will have to deal with those criteria. But even in these cases it is clear that the attainment of these 'official qualities' is not by definition the basis for good quality. Here too, good quality is based on how these governmental demands are digested and materialised by the educational participants and legitimate stakeholders.

In this approach to educational quality, the weighing of the interests of the pupils is very important and even central to the definition of good quality. Even when the child cannot actually participate in person in the process, there should be someone who advocates and defends the interests of the child, on behalf of the child. Being the advocate of children's interests is the major role of the pedagogue; therefore it seems plausible to name this approach to quality and effectiveness the *pedagogical approach*.

But what, then, is effective learning and effective teaching in the pedagogical approach to quality and effectiveness? What are, to put it more precisely, the 'effects' (or: the gains) that pupils, teacher, parents and representatives of the community at large have to seek consensus on? Taking development as a holistic concept (see for example Valsiner & van der Veer, 2000), we can maintain that any personally meaningful improvement or expansion of the agency of children in sociocultural activities is a hallmark of development. Of course, reading, writing, arithmetic etc can play a part in this participation in sociocultural activities, and these can be used as potential partial indicators of development. However, such performances should always be meaningful accomplishments rather than isolated performances on decontextualised tests. But it should also be evident that increased self-confidence, new interests, a raise in involvement in shared activities, or social abilities should also be seen as valuable gains of effective education, even when these were not anticipated. Against this background, we can now define *effective learning* as the personally meaningful appropriation of **new qualities that contribute to the development of the child as an agent in sociocultural activities**. *Effective teaching*, then, is the practical realisation of conditions that promote effective learning.

4. Creating conditions for effective learning (the pedagogical perspective)

When educators want to promote effective learning in young children, it is important to know which conditions must be taken into account. In general we can identify two broad categories of conditions: conditions that have to do with the *child* and conditions that have to do with the *cultural context* in which development is to take place. Effective learning can only be expected when it is tailored to the child itself, i.e. when it is **developmentally appropriate**. On the other hand, as we have seen, the qualification ‘development’ is not only a matter of changing the child, but also a matter of empowerment, of enhancing the child’s social and cultural identity and its abilities to participate meaningfully in sociocultural activities of its community. So the other condition that must be taken into account is the **cultural validity** of the content of the proposed development. Neither of these is, however, a self-evident or absolute fact. They are results of human interpretation and agreement. Especially with regard to the cultural validity it is important to emphasise that this does not claim an absolute, universal and eternal truth for some elements of culture. But together with accepting our inability to definitely legitimise the status of cultural contents, we cannot deny that in a certain cultural community it is essential to master special forms of abilities, knowledge and attitudes. The contextualised nature of development forces the admission that the content of development must be culturally valid for that community. Of course, public opinion may change with regard to the precise elements of culture that are selected for the common core curriculum, due to changes in our cultural or psychological insights. But some consensus is always necessary in order to qualify behavioural changes as ‘development’. This reminds us of Bruner’s famous statements that education must rearrange and reorder knowledge in a fashion to reflect the theoretical advances and hypotheses current in the intellectual community that uses the knowledge, and that - furthermore - subjects must be taught and can be taught to children in a way that is both interesting and honest (see Bruner, 1972, p 16 and 18). The requirement of interest refers to the child, and to developmental appropriateness, the requirement of honesty refers to the cultural validity. Similarly Vygotsky (1987) and Davydov (1988) tried to relate human development to culture and cultural development by introducing the notion of scientific concepts as qualified contents for development. Although the reference to the scientific status of the concepts is problematic in a pedagogical argument (see for example Wardekker, 1998; van Oers, 1996b), we can never be discharged from making a well-founded choice for cultural contents for development.

4.1. Developmental appropriateness

The notion of developmental appropriateness is not an evident matter, as it depends on the developmental theory that one adheres to. In our research and practical work we tried to elaborate the developmental appropriateness along the lines of Vygotskian theory. Three elements are important then:

- a) *leading activity*: the form of the shared activity between children and educators must correspond to the way the children relate to reality. For young children, according to Vygotsky the leading activity is play:

“The child moves forward through play. Only in this sense can play be considered a leading activity that determines the child’s development” (Vygotsky, 1978, p.103)

El’konin (1972) elaborated this notion of play as a leading activity of young children and pointed out that this is an historically created strategy for introducing children into a community’s cultural life. In manipulative play, according to El’konin, the child’s practical relation to reality dominates and the young child’s participation in activities is mainly dominated by the motive to manipulate things, to explore the physical-material aspects of reality. In the next stage of play development, the child adopts special social roles that guide his manipulations. He is not just riding the car up

and down the floor, but he plays that he is a driver. In this role-play the nature of the child's relation to reality shifts from a practical-material form to a more social form, focused on interpersonal relationships (see also Umek et al, 2001). Exploring interpersonal relationships mainly motivates the child's participation in such activities;

b) *zone of proximal development*: the developmental potentials of a person should not be reduced to the achievements he or she already masters, but are even more indicative for development is what a person can appropriate with support. This support comes from the *context* (the activity the child is engaged in), and from the *co-actors* in that activity. Both context and co-actors function as resources for children that enable them to perform above the level they would show had they acted on their own. Hence Vygotsky could write:

“[P]lay creates a zone of proximal development of the child. In play the child always behaves beyond his average age, above his daily behaviour; in play it is as though he were a head taller than himself” (Vygotsky, 1978, p. 102).

An educational activity is developmentally appropriate when it creates a zone of proximal development for the child. Vygotsky himself explained the potential of the zone of proximal development by referring to imitation (see for instance Vygotsky, 1978, p. 87). By imitating roles in sociocultural activities from the child's community the child comes into contact with the cultural tools and rules. This promotes the cultural learning processes of the child in a meaningful way. So, for children between 3 and 7/8 this means that they should be given the opportunity to learn in the context of role play where they can benefit from all the resources that are available in that context.

c) *well-being and involvement*: in order to promote meaningful development it is important that children can act and communicate without pressure and at ease. However, these acts and communications shouldn't be imposed onto the children, but communication should be at their own interest, related to their own intentions and conceptions. In order to create the conditions for such activities it is important that the child is an accepted participant in a group that is characterised by togetherness, and that can benefit from many resources that can support individual children in the aspects of the activity that they don't yet master. These conditions contribute to a feeling of well-being and involvement (Laevers, 1994). Well-being and involvement of children and teacher are important conditions for effective learning (see Pascal & Bertram, 1997).

4.2 Cultural validity

Although a serious reflection on the contents of education is certainly important, I will not dwell too long on this issue here. I agree with Davydov (1972) that it is impossible to say something about development through education without seriously taking the contents of the subject matter into account. Effective learning is learning that is both developmentally appropriate and culturally relevant. So educators have to create consensus on issues like:

- social norms and values of the community;
- knowledge and abilities demanded for autonomous participation in communities of practice;
- attitudes required for autonomous and critical participation.

In the curriculum strategy mentioned above (“Basisontwikkeling”) a number of such contents are suggested, without dictating a strict order in which they should be programmed. Instead, the teacher spots the children's activities for good opportunities in order to introduce these cultural elements into the children's play. This decision is based on careful observation of the children and probing of their abilities to cope with these new elements. Every new element can only be introduced into the context of an ongoing activity, and it will be introduced first in a general and minimally constrained form. For example: before we introduce the cultural techniques of writing into the

child's activities, it is important to give her/him ample opportunities to explore communicating with graphical means in its own way. So before the introduction of techniques and specific knowledge there is always a stage of getting involved in broadly defined activities. But sooner or later the cultural norms begin constraining the children's actions as well. Cultural techniques or sophisticated elements of knowing can be introduced meaningfully into children's thinking as soon as these answer the actual needs and interests that emerged within the context of their play.

4.3 Effective learning in the early years

Summarising the above-mentioned criteria of effective learning, we get the scheme as represented in Figure 1. The following major question is how play can be used as a strategy and context for effective learning. In our own collaborative work with innovators, teacher trainers and teachers, we are working at a play-based curriculum for the primary school. This curriculum is, however, not a strict and uniform syllabus prescribing what a teacher should do at each moment. We think of this 'curriculum' as a working strategy for teachers that they can use in their interactions with children in order to find their way through a number of culturally valid activities in a developmentally appropriate way.

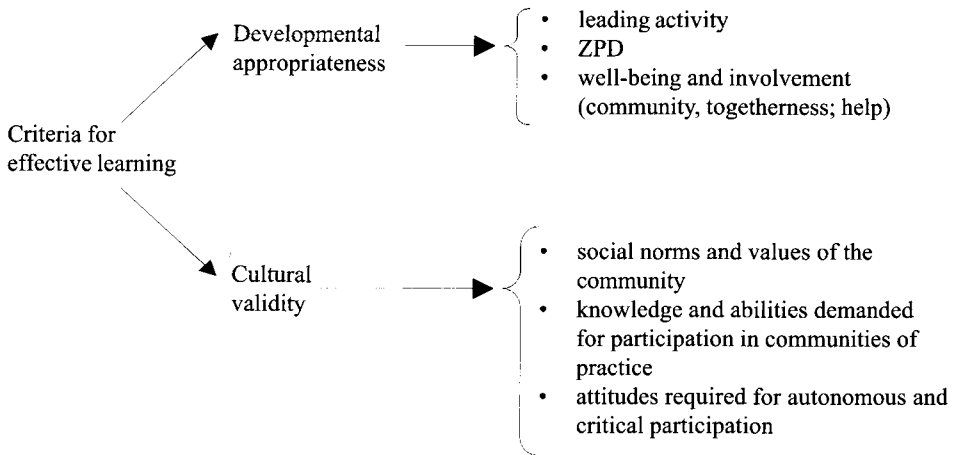


FIGURE 1: Criteria for effective learning

Currently this working strategy is being implemented in a growing number of Dutch schools and step-by-step the quality of this working strategy is evaluated and improved. In working with this strategy it is important that teachers learn to use the characteristics of play for the benefit of the children and for the realisation of their own pedagogical (and cultural) responsibilities. Play contains a number of resources that can support the activity and learning of the children. The crux of the matter in the application of this idea is how teachers and children in the accomplishment of their joint activity employ the resources in play (see van Oers, 1999a).

The rest of this article is dedicated to the clarification of the resources of play and their use for effective learning in the early years.

5. Resources in play activity

The history of research on play is already very long and full of controversies. I am not intending to review the literature here (see Sutton-Smith, 1997), but will follow my own reasoning. It is obvious that it is impossible to find an all-encompassing definition of play, like Wittgenstein (1953,

vol. I, p. 65-67) already pointed out. Moreover, it is not very useful to stick to romantic conceptions of play that only idolise childhood in terms of freedom, fantasy or spontaneity.

Like Vygotsky (1978, p. 103) already pointed out, absolute freedom does not exist and it doesn't exist in play either. In all play there are some **rules** to be followed and it is due to these rules that play activity is structured without being fully determined on the level of concrete actions. It is important to distinguish between the level of actions and the level of activity. People can engage in the same activity without acting completely the same. When children play hospital they share some general rules and scripts about what kind of things are going on in these institutions, but on the level of concrete actions they all do different things. So it is clear that engagement in the same rule governed activity does not necessarily and uniformly determine concrete actions.

In play the child's actions are subordinated to the meaning of things and her conception of the situation. The basis of play for Vygotsky is the imaginary situation and this imaginary situation structures the child's behaviour on the level of actions and gives a resource for improvisation on this level of actions. When a child plays "Barber Shop" she can get engaged in the activities of cutting, combing, washing and curling, but at the level of actions she can construct her own personally meaningful performances and even improvise with a wooden block as soap, or as a comb. The imaginary situation supports the valency of the wooden block not just as a wooden block, but also as a comb. Had the imaginary situation been a representation of a carpenter's work place, then probably this very same wooden block would have been a hammer, or a stone, but certainly not a comb.

So we see that play necessarily contains rules, but these rules allow some freedom to the player at the level of actions. Actually, play is an accomplishment of a sociocultural activity that allows children some **degrees of freedom** that they can use for improvising and making their own version of the activity involved (see also Baker-Sennet, et al. 1996, regarding the difference between planning of activities and improvisation on the level of actions). Allowing children some degrees of freedom at the level of acting is an essential element of play activity. If the degree of freedom for acting is zero, then the child's actions are completely determined and the activity cannot be called play. It can be work or routine activity, but it is definitely not playing. It is this element of play activity that creates the possibility for the child to pretend play (to act as if he or she is someone else or does something that she knows is not real). Pointing a stick to a lamp and saying "ssssshhhhh" is a pretend play enacting a fireman. In this case the child uses her or his degrees of freedom in acting for doing something that she knows is not really true. In my conception of play, however, pretend play is not a defining characteristic of play, but a derivative from the degree of freedom on the level of actions.

Finally, a characteristic of an activity that I will call play is the **voluntary participation** in the activity. In play the child can follow rules and be given freedom in acting but when the child is not really interested in the play or is forced to participate in this activity, the activity will never be really engaging for the child. In every play the child must have the opportunity to decide for himself if she/he will participate and get involved, or will continue this participation or not.

This analysis shows that play is basically a format of human activity: a way human socio-cultural activities can (but not necessarily must) be carried out. When a child plays doctor, she can allow herself more degrees of freedom in acting than a professional doctor carrying out a surgery. The format of play is a cultural means for getting children involved in cultural activity. Through this participation children can learn new actions for this activity and improve at the same time their ability for participation in such activities. By playing in a post office the child can learn to count and learn to deal with money in a socially acceptable way. By so doing the child can gradually improve her ability to participate in such activity.

Analyses of activity have demonstrated that sociocultural activities are basically a form of distributed intelligence (see for example Salomon, 1993). Together people know more than they could know individually, because they can benefit from the knowledge and abilities of other participants in the activity. When I drive in a strange city, I can find my way with the help of the knowledge of other people telling me the way, and with the help of a map and signs on the streets. When I reach my place of destination it cannot be said to be completely my own accomplishment. My successful performance is based on the use of different resources in my direct environment. I profited from a distributed cognition. Children in play activity also can make use of a distributed

cognition that can help them perform at a higher level (like was suggested by Vygotsky's description of the zone of proximal development in play). The potential of play for children, and especially for effective learning in children, is precisely founded in this possibility to use these multiple resources for the accomplishment of their play-related actions.

In general, play activity opens the following resources for children in play:

1) other children as resource

Peers can help each other with the accomplishment of actions in their play (*children help each other with counting when one of them has not yet mastered the counting routines*), or bring new ideas into the play, or even function as a resource for reflection by asking questions (Forman & McPhail, 1993; Tudge, 1990; Faulkner et al, 1996). The following might be an example:

In a project on castles, Peter had built a castle from a plan that was provided by the teacher. Then he started making a drawing of his castle; another child commented the drawing by saying that it didn't look like the construction plan that the teacher gave and particularly that Peter's drawing didn't show the back of the castle. Then Peter made a drawing of the backside of the castle and stuck it to the back of the first drawing. The reflection on the correspondence between front and back emerged from the discussions with the peer child.

Finally, children also often give each other social support for their role in the group and emphasise the social unity of the group. This togetherness is very important for the development of the group into a genuine learning community. The resource for the maintenance for his togetherness is often to be found in the peergroup (see Hännikänen & van Oers, 2001).

2) adults as resource

In developmental education it is considered important that an adult participates in the (play) activity of the children (see for example Rogoff, et al, 1993) The adult can participate in different roles: as a member of the group (eg. a customer in the shop), as a helper for children who want to carry out actions that they cannot do alone, or as a moderator on the metaplay-level (for the reflection on the activity).

In the post office:

the teacher comes in to withdraw 20 guilders. The boy (5 yrs) gives the customer one bill of hundred and a five. The teacher asks the boy if this is correct. The boy looks, takes the hundred and exchanges it for another 10-guilder note; step-by-step the boy and the teacher work out the correct answer. The boy uses the teacher as a resource.

In the shoeshop:

5-year-old children are trying to find ways of symbolizing the contents of the shoeboxes. They are making labels by making drawings and letter symbols on small pieces of paper. Children are constantly checking with the teacher if their labels are correct and what they have written on it. When one child has written a string of letters including an M, the teacher suggests: 'That's a good idea to write an M for mamashoes, can you do that for the other shoes as well? M for mamashoes and P for papashoes?' Other children join in and after a while most of the boxes are labeled as M, P, B (baby shoe) and K (children shoe). The pupils probably wouldn't have invented this without using the teacher as a resource (see van Oers, 1996a; 2000).

3) tools

The tools that children use often suggest new actions in their play. All cultural tools imply certain actions that can take on a meaning in the play activity of children. In the Vygotskian point of view tools are essential devices for all cultural activities as they embody part of the cultural experience that can be acted out as special, socially meaningful actions (see Kozulin, 1998; Wertsch, 1987). The scissors, for example, embody the act of cutting and as such enable children to make labels, paper constructions, clothes for dolls, playing the role of a barber and a nurse etc. The immanent possibilities of tools are often manifold; they have to be discovered for a certain activity. As such tools are a resource for many actions and discussions.

One day in the play in the shoe-shop, an abacus that was never used before by the 5/6-year-old children was purposefully taken by a boy and used as a tallying device.

Another example:

When the teacher discussed with children the sizes of their own shoes, she introduced a measuring mat:

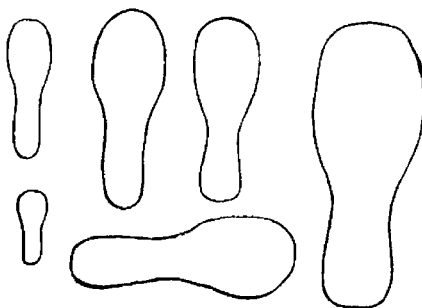


FIGURE 2: Measuring mat

Children started estimating their sizes and the teacher's shoe size and checked it with the mat. This measuring mat was a resource for many actions concerning measuring, first with the mat, later with self made models and instruments. The tool provided by the teacher was a resource for many actions and new ideas.

Sometimes children also make their own tools for the activities they are engaged in. Like in the shoe shop:

In the shoe shop, the children started using the symbols on the labels in a more generalised way. The symbols were not only stuck to the boxes, but also used later on paper drawings of the piles of shoeboxes. So they could use these symbols as a tool to classify the boxes on paper in different categories, and furthermore to count the numbers of shoes in the different classes (see Figure 3). The immanent possibilities of the original symbols were constantly expanded (see van Oers, 1996a).

In another classroom, children had made drawings of their railway tracks:

Initially these drawings were used for reconstructing the track, but this was not very inspiring for the children (they trusted their memory as well as their drawings). After a while they discovered (with the participation of the teacher) that these drawings could also be used for communication purposes, then they started reflecting and discussing what should be represented in their drawings and what could be left out. The representation of the

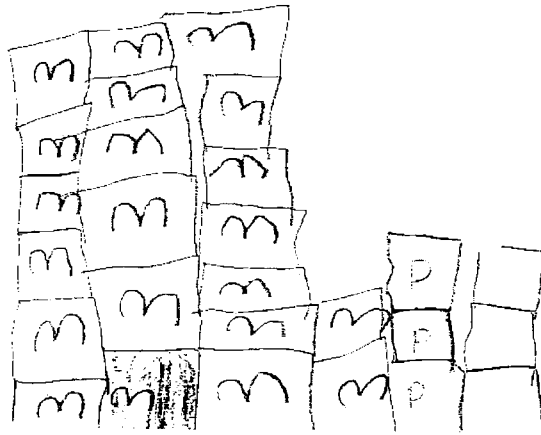


FIGURE 3: Diagram with piles of labeled shoeboxes (M = mamashoes; P = papashoes)

railway track now became a tool for communication and they discovered the immanent possibilities of this tool, especially the principle of parsimony. This quality is inherent in symbolic tools just because they can represent qualities that are not all manifest, but can be derived. You don't have to draw all the sleepers of the railway track, just a few and the observer will derive that it goes on and on. Symbolic tools can be a resource for hidden qualities! (see als van Oers, 1994).

Other examples can be found in young children's use of the computer for text processing:

One boy was writing a little story on a computer. Another boy came to see what he was doing and they started "making fun with the computer". In this activity they hit on different new possibilities of the textprocessor, like the possibility of using colors, drawing, and finally they discovered the text boxes. They started to use the text boxes in new texts in order to create more structure in their stories: for example they used the text boxes for the structuration of a dialogue. By so doing the boys enriched their literary productions by using a hidden immanent possibility of the computer.

4) curriculum materials as a resource

In some situations we can witness that children use curriculum materials as a resource for additional information. Many examples here can also be discussed under the heading of tools. As a matter of fact, these materials show their resource qualities when the pupils start to use the materials as tools for their own purposes.

Children (6-year olds) who were building a round tower for a castle from the middle ages came very far with it on the basis of their memory, imagination and previous real life experiences on such a castle. For the final details (how about the windows?), however, they consulted a book from their library. The book was a resource of information that they can use to check up things, or to find answers to some of their questions.

5) imagination as a resource

A very important resource for children is their own imagination (Vygotsky, 1967; Egan, 1997). In their minds they can represent how things **could** be (although they appear to be different in real

life). According to Vygotsky (1967) imagination is based on the productive combination of the available elements of thinking.

After having built a big castle with his friend, Joost wanted to invent a device that could catch enemies that climbed the walls. The teacher showed interest in this device and encouraged Joost to express how such a device ('enemy catcher') should look like. Joost had problems in the beginning to solve the problem, but he could express it very clearly in words. The questions of the teacher encouraged him to make his fantasy more and more explicit. In the beginning all inventions failed, they didn't work the way Joost wanted, but after thirty minutes of experimenting he had made a contraption with Lego that could be fixed to the battlements of their castle and that would trap all enemies who dared to climb the walls.

In this case we see that Joost was inspired by his own imagination that stimulated him to continue. The encouragement of the teacher to use his imagination triggered an important and rich resource for the activity of the boy.

6. Effective teaching in a play-based curriculum

In order to be effective and provoke effective learning in the pupils, teachers in a play-based curriculum should first of all try to activate as many resources as possible and encourage pupils to draw the benefits from these resources in their activities as much as possible. As we have seen in the examples above, working from these resources creates new needs for specific abilities and knowledge. These emerging needs also create new teaching opportunities in which new forms of relevant cultural knowledge and competences can be introduced.

But efficiently applying these principles does not in itself guarantee that effective learning has been achieved. In order to claim effective learning it is necessary to:

- a) demonstrate that changes over time have occurred in the pupils' form of participation in sociocultural activities;
- b) substantiate that the changes have to be judged as positive (Are they lasting? Do they contribute to the overall personal development of the pupil? Are they personally meaningful?).

We are currently still experimenting with these evaluations. A manual for guiding the teachers' observations has been developed (HOREB, see Janssen-Vos, et al., 2001). A number of evaluation studies have been carried out recently (see van Oers, 1999b; 2000b; 2002; Harskamp & Suhre, 2000; Timmerman, 2002). From our experiences with a growing number of schools in the Netherlands, we have learned that teachers could indeed learn to act in this way with their pupils in the classroom, while at the same time maintaining the qualities of play (rule-governedness, degrees of freedom for acting, voluntary participation). One of the essential abilities for teachers who want to teach according to this play-based approach is the ability to observe pupils in their everyday activities, and, accordingly, introduce new cultural rules and tools for the benefit of the children's activities. Furthermore they must learn to simultaneously participate in different plays and register all observations of pupils' activities in a report, which must be summarised in a developmental narrative several times a year. In this developmental narrative the teacher writes a report about the development of the pupils on the basis of her observations of pupils in a number of different situations. By so doing the teacher can build a developmental narrative of the child, using all kinds of information from daily observations and conversations. This kind of report can draw information from a pupils' test performance, but it is clear that no direct translation of this test result is possible here. It can be used as one of the arguments in the individual profile of the child, but more information is needed (e.g. about the pupil's interests, independence, social behaviour, creativity, ability to profit from help etc) in order to compile an encompassing picture of the child's developmental status.

In a longitudinal study at a school that works on the basis of the above described ideas we followed one group of pupils ($N = 34$) from grade 2 through grade 4 (ages 5 through 7). Over the years the teachers got professional assistance for the implementation of the developmental education approach in their practices. They also learned to develop the habits of writing developmental narratives about every individual pupil twice a year. For the investigation they reported on literacy and numeracy development, as well as on all general developmental characteristics they deemed relevant. For this research we also separately collected data of these pupils: independent from the teachers we assessed them with two standardised tests, one for literacy and one for numeracy development. The teachers were never acquainted with the outcomes of these tests, so they made their own evaluations unobtrusively. The numeracy tests were paper and pencil tests, taken by the teacher but analysed by the researcher (tests were developed and standardised by the Dutch National Institute for test Development CITO), the literacy tests were individually administered by an independent teacher who did not work at this school (for the youngest group a Dutch translation of Clay's "Conception about Print" was used; for the older groups a test for technical reading was administered (AVI, see Visser, van Laarhoven, & ter Beek, 1996) that was developed and standardised for the Dutch population.

I summarise here only a few of the remarkable data from this research. First of all, it was clear that teachers on the basis of their own observations (using the HOREB instrument) could identify the pupils who needed special care as well as the standardised tests did (see for example van Oers, 1999b). So the classical counter argument that teacher's observations are per se unreliable turned out to be false. Regarding the validity (especially ecological validity) of the teachers' judgements, it is plausible to argue that their developmental narratives were far more valid descriptions of the pupils' developmental state because these judgements were based on meaningful everyday and engaged activities of the pupils and contained much more information about the pupils' functioning. Finally, it is evident that obvious changes could be reported regarding the pupils' performances in different areas. The teachers meticulously described in their reports the pupils' progress referring to both abilities, interest and general developmental observations (like creativity, anxiety, independence, communicative abilities etc). In their reports the teachers both indicated the changes and valued the changes as positive markers of development (or not). The teachers evaluate the overall scores of the pupils in grade four as positive and promising for most of the pupils. Some of the pupils were signalled as pupils who demanded permanent special care and help. The standardised tests also gave statistically overall significant changes over the year, but it is not clear in itself if these changes indeed indicate development. Let's look at them a bit more closely.

It is quite interesting to compare the different sets of data from the perspective of effective learning. Table 1 summarises some of the main data over the three years (1997 – 2000). From the quantitative data on the national standardised tests we see that there is a steady growth in the scores (both in literacy and numeracy). Interestingly, in the domain of mathematical thinking the pupils score on or even significantly above the national norm level (analysed with the t-test, $N = 34$). The pupils in this school were introduced into mathematical thinking on the basis of problem solving and reflection on quantitative and spatial relations in the context of their play activities. This kind of learning obviously helps the pupils to perform well on the standardised test for mathematical thinking. The outcomes on the literacy tests, however, are completely different. Here the pupils score significantly below the national norms for this test (AVI, see Table 1) both in grade three and four.

The interesting question now is: have the pupils been learning effectively (or did effective teaching occur?) ? On the basis of the quantitative scores on the standardised tests one might tend to say: NO, there was no effective learning since the pupils score below the average national norm. The teachers, however, produced data regarding the pupils' interest in literature, their motivation to read independently, understand the core meaning of a written message, or a book, to write letters and messages, so their evaluation is remarkably different. Most of the pupils, according to the teachers' evaluations, have demonstrated considerable changes in literacy activities over the years and these changes are considered as positive developmental changes in the pupils' literacy development. So the learning and teaching was effective (which doesn't mean that it was the best achievement possible).

TABLE 1: Quantitative test outcomes on numeracy and literacy

Grade & year	Subject	Moment of testing & mean score		National norm ²	Remark
2 ('97-'98)	Literacy	February	14.35	?	target group not significantly different from national norm target group significantly above national norm
		June	16.51	?	
	Mathematics	February	55.40	51	
		June	68.71	58	
3 ('98-'99)	Literacy	February	.86	2	target group significantly below national norm target group significantly below national norm
		June	1.82	2.5	
	Mathematics	February	49.0	41	target group significantly above national norm target group significantly above national norm
		June	61.76	51	
4 ('99-'00)	Literacy	February	2.71	3	target group significantly below national norm target group significantly below national norm
		June	3.59	6	
	Mathematics	February	64.91	62	slightly above national norm (n.s) equal to national norm
		June	69.21	70	

How to explain the differences? This is rather easy. The AVI test measures technical reading, which is a kind of performance the pupils are not especially or predominantly trained on as in a phonics instruction type of literacy education. The pupils in this play-based curriculum developed strategies for expressing meanings in written form and getting the meaning out of a written text. They learned to read through being engaged in the role of a writer and a composer of written texts. Their literacy development was more focused on understanding and use of meaningful literacy means in the context of their play and real life activities. They couldn't use this ability in a speed test like the one used in the standardised test setting. The low scores on the AVI test only indicate that the pupils haven't yet mastered the techniques for getting good grades on this test. It is interesting to note here that, according to the teachers, many pupils tend to take books from their school library that were marked on a higher AVI level than these pupils achieved on the test. In checking their understanding of these books the pupils did understand the story in the book perfectly, so their reading ability (as an ability to understand written texts) is well developed.

This outcome parallels the outcomes of an independent research on the literacy development of pupils in four developmental education schools (Harskamp & Suhre, 2000). These schools worked, roughly speaking, from the same concept as the educational concept that underpinned the school of our previously described longitudinal study. In their investigation these researchers examined the reading and writing abilities in grade 3/4. They found that pupils from these schools made an enormous progress over a year with regard to writing abilities and these progresses were unequivocally seen as positive developmental gains of the pupils. As these writing abilities are no part of the common core curriculum in the Netherlands (which focuses only on technical reading)

at that age, there are no comparisons with a national norm. The relevance of these findings is, however, that it could be demonstrated that 6- and 7-year-old pupils can meaningfully learn to compose and understand written messages in a way that improves their abilities to participate in sociocultural activities that make use of these literacy tools.

With regard to the development of technical reading we probably may conclude that the development of the pupils is only slower than the development of pupils at another type of school. This effect is probably also reflected in the diminishing advantage of the pupils from the target group as compared to the national standard for mathematics. The mathematics tests are also primarily focussing on technical arithmetic as the curriculum progresses. The pupils in our target group are more involved in problem solving, negotiating meanings and getting understanding, and less in mastery of technical routines.

7. Conclusion

Is this effective learning? Reasoning from a pedagogical interpretation of effectiveness, there is ample reason to consider the learning processes in the play-based curriculum as effective learning, though it must be admitted that more research is needed to substantiate this claim further. What must be clear from all this, is that the evaluation of effective learning and teaching cannot be reduced to a simple test score or even a collection of individual test scores (however robust these tests may be). At best the tests demonstrate how well the pupils can make these tests. For an evaluation of the development of the pupils, more information is needed that must be integrated by the educator in a best fitting profile (or developmental narrative). The construction of the developmental narrative (indicating the effectiveness of learning) is basically an argumentative-rhetorical process on the basis of pluriform information. Our main task for the near future is to develop with the help of teachers effective strategies and tools for composing such developmental narratives, and assisting teachers to employ these tools together with their pupils in their classroom practices. Portfolio-like attempts to gather data for these developmental narratives are well under way now. The work of Margaret Carr (2001) on 'Learning Stories' can be regarded as an encouraging example for the further elaboration of this element of the play-based curriculum.

As we can conclude from this research: the richness of the resources available in the context of play creates many opportunities to learn and teach. The teacher who manages to provide pupils with these resources in the context of play, without impairing the quality of play, has good chances to provoke teaching opportunities for arousing new cultural abilities in pupils, and consequently, to promote effective learning and realise effective teaching in early childhood.

FOOTNOTES

- [1] I will leave out the critique on the philosophical basis of the modernist approach, as was delivered by Latour (1984).
- [2] Actually, the national norms are given by the tests (except the literacy test for grade 2). See Visser et al, 1996, p. 26. For the mathematics performances we constructed the national norm as follows. On the basis of the population data (provided by the test constructors) the performances are classified by the constructors in five performance levels: A (highest) to E (lowest). We took the upper limit of the middle group (C) as the norm for the respective grades. (see Janssen, et al., 1998).

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